

## ***Carex backii***

Rocky Mountain sedge

### Status

Federal status: G4 N?, Not listed

NH state status: SU, Candidate; proposed for threatened status (5/03)

ME state status: S3, Not listed

Listed as endangered in Maine because there are few individuals, it is at the edge of its range, and it is vulnerable to human activity. It flowers and fruits so early in the season it may be overlooked, which may be part of the reason for its rarity. Populations in VT and NH tend to be small and therefore are vulnerable. This species is not tracked in New Hampshire, so there is not enough information to indicate a trend there. In Maine, it appears to be stable, with 20 extant occurrences out of a total of 25; the few sites that have been revisited had stable or increasing numbers of fruiting plants.

The expert panel indicated that the current and future outcomes for this species are B across its range and C in the WMNF.

### Distribution

*Carex backii* occurs from Quebec to New Jersey, west across the northern states to Minnesota, Nebraska, British Columbia, Oregon, and Utah. Maine and New Brunswick form the eastern end of the species range, putting northern New England near the edge of the species range.

Occurrences are reported in New Hampshire in Rockingham, Merrimack, Belknap, Grafton, Carroll, and Coos Counties. Because NHNH does not track this species, towns and dates for these occurrences are not available. The SVE panel indicated that *Carex backii* is likely to occur on the WMNF, especially in the Rattlesnake Mountain area and other oak habitats. In Maine, it is known from Penobscot, Franklin, Oxford, York, and Cumberland Counties. The Oxford County occurrences are not located near the WMNF.

### Habitat

*Carex backii* is a grass-like species that occurs in clumps on rocky or sandy soil in mid-successional and old growth oak-hardwood and limestone hardwood forests. It also is found on ledges and outcrops, bedrock, glacial till, and along trails and roads. *Carex backii* occurs on calcareous to circumneutral soils, avoiding acidic or poor habitats.

The amount of moisture and canopy closure preferred by this species appear to be in question. Several sources indicate it typically occurs in dry, open forest and on exposed ledges. The SVE expert panel said it occurs in dry-mesic, but not dry, partly-shaded oak-hardwood and limestone hardwood forests, and usually does not occur in the open part of ledges, though it may be exposed to sun for part of the day. It is known to occur along roads and trails and on partly exposed rock ledges, so some level of canopy openness must be acceptable, if not desirable. Small populations have been found in closed canopy forest, so it appears tolerant of a range of conditions. Whether closed-canopy conditions affected population size is unknown since this species often occurs in small populations.

### Limiting Factors

Loss and alteration of habitat to development is the primary concern for this species. Given the differing opinions on whether *Carex backii* occurs in open or partly-shaded forest, it is unknown whether timber harvest and other activities that open a forest canopy would positively or negatively affect populations.

Non-native species and trampling threaten populations in Maine, and so may be potential threats elsewhere. The use of ledges and outcrops may place it at risk from rock climbing as well as view-seeking hikers.

Small population sizes and isolation make populations vulnerable to stochastic events.

### Viability concern

Habitat on the WMNF for this species is naturally limited. The expert panel indicated it is likely on the Forest and gave current and future outcomes that are viable, but near the threshold. Several activities controlled or affected by Forest management, such as timber harvest and rock climbing, could affect viability of any existing populations on the Forest. The uncertainty about some habitat preferences made identifying a surrogate species difficult.

### Management activities that might affect viability

As stated above, it is unknown whether timber harvest and other activities that open a forest canopy would positively or negatively affect populations. It appears to be able to tolerate a range of canopy conditions, but what conditions result in stable, viable populations is unknown. As with any plant species, harvest activities during much of the year could directly impact individuals if care is not taken to avoid populations.

Depending on the location of populations, trampling by hikers and rock climbers could be of concern. Forest efforts to keep hikers on trails and to work with the rock climbing community to protect sites with rare plants could benefit this species.

Management to prevent, control, or eradicate invasive species could help prevent competition and maintain habitat suitability.

### References

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